

REMARKS

By this amendment, claims 1 and 2 are amended. Support for the changes to these claims are found, *inter alia*, in Figures 10 and 11. Claims 1-3 are presented for further examination.

Applicants initially acknowledge with appreciation the courtesies extended by Examiner Johnson during the personal interview held with Applicants' representatives on October 19, 2006.

The rejection of claims 1-3 under 35 U.S.C. § 102(b) over Shimajiri, US 4,989,775, is respectfully traversed with respect to the amended claims.

As discussed during the interview, the claimed process for joining aluminum or aluminum alloy components comprises applying a flux having a cumulative particle volume distribution lying entirely within the area bounded by Curves 1 and 2 of Figure 10 or Figure 11. Shimajiri does not disclose or suggest the claimed cumulative particle volume distribution and thus cannot anticipate claims 1-3.

The claimed cumulative volume distribution is illustrated, for example, in Figure 10, wherein the cumulated volume distribution is plotted against particle size (see, e.g., pages 3-7 of the specification). With such a cumulative representation, the numeric value read from the y-axis is the volume percentage of particles having a size of up to and including the corresponding value read from the x-axis.

Thus, referring to Figure 10, the claimed flux must comprise from about 5 to 10 volume % of particles with a particle size of less than 1 micron and must comprise from about 10 to 27 volume % of particles with a particle size of less than 2 microns. Pointedly, claim 1 requires that the flux include particles that are smaller in size than 2 microns, which is the minimum particle size taught by Shimajiri. Because the claimed particle size range clearly lies outside the range of particle sizes taught by Shimajiri, the anticipation rejection is improper and should be withdrawn.

The Office Action alleges that Shimajiri teaches a flux comprising only 80 micron particles and that "all particles in the size of 80 microns are bounded between curves 1 and 2." Applicants acknowledge that a single data point corresponding to a sample comprising only 80 micron particles if plotted on Figure 10 will lie between Curves 1 and 2. However, Figure 10 is not a distribution plot of individual particle sizes, and the plotting of a single data point in the manner suggested by the Office Action is an incorrect application of Shimajiri's data to the cumulative volume distribution plot according to the invention.

Rather, the cumulative particle volume distribution of a flux comprising only 80 micron particles would be represented by a step function having a 0 volume percent distribution up to 80 microns and then a 100 volume percent distribution for particle sizes of 80 microns and greater. In contrast to the assertion made in the Office Action, the particle volume distribution taught by Shimajiri does not lie entirely within the area bounded by Curves 1 and 2. Reconsideration and withdrawal of the rejection are respectfully requested.

In view of the foregoing, the application is respectfully submitted to be in condition for allowance, and prompt favorable action thereon is earnestly solicited.

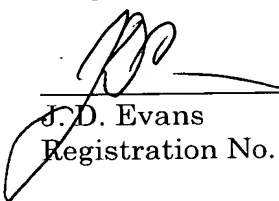
If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned at (202) 624-2845 would be appreciated since this should expedite the prosecution of the application for all concerned.

Serial No. 10/784,969
Reply to Office Action
December 7, 2006

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket #102623.50643D1).

Respectfully submitted,

December 7, 2006



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